

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number
WO 2005/078945 A1

(51) International Patent Classification⁷: H04B 1/28

(21) International Application Number:
PCT/JP2005/002386

(22) International Filing Date: 9 February 2005 (09.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2004-037507 13 February 2004 (13.02.2004) JP

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

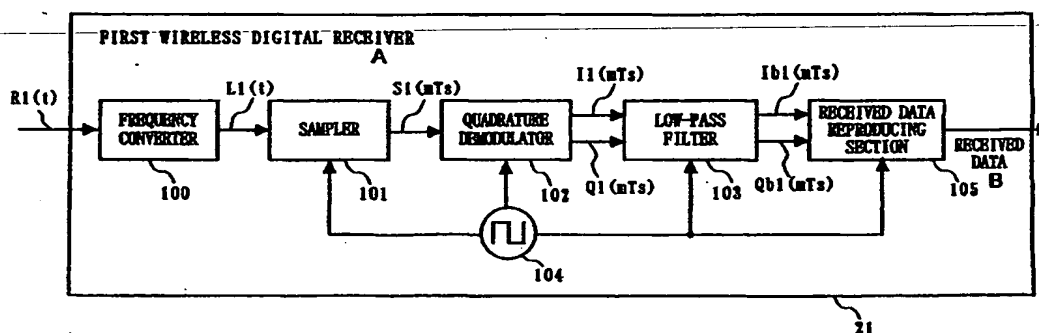
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: WIRELESS COMMUNICATIONS SYSTEM AND WIRELESS DIGITAL RECEIVER FOR USE THEREIN



(57) Abstract: A base station 2 demodulates a wireless signal after downconverting the signal to a low-frequency signal whose center frequency is f_i [Hz] and oversampling the signal. A mobile station 3 demodulates a wireless signal after downconverting the signal to a low-frequency signal whose center frequency is f_d [Hz] and undersampling the signal. The same sampling frequency f_s [Hz] is used in the base station 2 and in the mobile station 3. The sampling frequency f_s [Hz] is set to a value that is an even-number multiple of a wireless symbol transmission rate such that oversampling is done in the base station 2 and undersampling is done in the mobile station 3. The center frequency f_i [Hz] is $1/2$ to 1 times a frequency corresponding to the bandwidth and is $1/2^N$ (N is a natural number) times the sampling frequency f_s [Hz].